

Customer Success Story

AKTEL

Bangladesh



AKTEL, Bangladesh,
maximizes radio capacity to
reduce network congestion

Effective frequency management was required by AKTEL, Bangladesh, to ensure rapid subscriber growth could continue across one of the most densely populated countries in the world.

AKTEL launched in Bangladesh in 1997 and has consistently been one of the fastest growing GSM operators in the country. The operator, the brand name of TM International Bangladesh, now provides GSM and GPRS services to over 4 million subscribers. Bangladesh is one of the most densely populated countries in the world, with around 144 million people living in a 147,570 sq Km area.



The operator is one of four established GSM providers in the country. A further competitor is due to launch into this competitive market in the near future. AKTEL is the first mobile operator to connect the northern and southern most points of Bangladesh. The network covers all 61 allowable districts of Bangladesh, and the operator has the first Intelligent Network (IN) Prepaid Platform in the country.

With a large population and a crowded market, AKTEL needed to ensure its frequency allocation was optimized, in order to sustain and to grow subscriber numbers. The operator's allocated GSM 900 frequencies had reached capacity limits and its GSM 1800 frequencies are nearing capacity limits. High population density in Bangladesh meant base stations were required closer and closer to each other. The operator sought to establish a systematic and efficient frequency planning method, utilizing the available frequency spectrum as efficiently as possible and allowing for the future expansion of the network.

To achieve this objective, AKTEL needed to optimize its radio network capacity to remove network congestion while, at the same time, minimizing frequency planning requirements for further capacity expansion. To begin to address the capacity issues, the first phase focused on the capital city, Dhaka. The operator wanted to continue achieving established Key Performance Indicators (KPIs) while ensuring maximum network capacity by implementing Frequency Load Planning (FLP), which would also ensure voice traffic quality was maintained and improved.

Kamshul Bin Kasim, CTO, AKTEL, describes the situation the operator faced: "AKTEL had about 700 idle TRXs in the GSM 900MHz band due to a shortage of the available frequency. Following FLP implementation, AKTEL can now increase network capacity by activating all remaining unutilized transceivers and also expand further without any restriction on the RF side of the network. With an average traffic per subscriber of 25mE, this gives an additional capacity of 163,699 subscribers to the network."

Ericsson has supplied the GSM system to AKTEL since 2001 including MSC, HLR, BSC, RBS, MINI-LINK and the Prepaid system incorporating the implementation services and support services. During this long-term relationship Ericsson has proved itself able to effectively deliver end-to-end solutions on time and to budget.

Ericsson has also supplied optimization and dual band tuning for AKTEL's network. This cooperation allowed AKTEL's network quality to reach the level necessary for the implementation of FLP.

Before commencing the project, Ericsson conducted a study to assess the network in order to ensure the project met the goals set out by AKTEL.

To fulfill the defined objectives, Ericsson supplied enhanced software features solutions for FLP, Radio Network Optimization and Radio Speech quality.



*Kamshul Bin Kasim,
CTO,
AKTEL*

“Easily expandable radio network planning has been a key benefit, ensuring enhanced network coverage and capacity.”

Kamshul Bin Kasim, CTO, AKTEL

Ericsson also offered professional services, including Operation Support Services and Radio Tuning Optimization,

Ericsson offered an end-to-end solution from design through to post completion support for AKTEL. Roslin Bin Saleh, Key Account Manager, Ericsson, describes how preparation and partnership were important: “The key success of this project was the early preparation and our ability to meet AKTEL’s KPI requirement. Both organizations have worked hand-in-hand to achieve the goal and to make the project successful.”

The FLP solution offers the most efficient way to address the capacity limitation AKTEL was experiencing in this densely populated country. This project shows an improvement to the radio network in terms of capacity and quality.

Following FLP implementation, AKTEL will be able to set-up a systematic and efficient frequency planning method with the available frequency spectrum. This will minimize the frequency planning efforts for further rapid capacity expansion, which is vital for a rapid growth operator like AKTEL.

Fine tuning activities were done to maintain or improve the basic KPIs including: Call Set-up Success Rate, Minutes per Drop, Handover Performance and the Percentage of Good Speech Quality index (SQI).

After implementation, consistency checking resolved outstanding issues. Eliminating these issues was essential to achieving good performance in the network. Features such as BTS Power Control, MS Power Control, were introduced to improve speech quality and minimize the effects of interference. The operator can now expand capacity without further lengthy efforts to acquire additional sites or the need for extensive planning, which is a vital benefit for such a rapidly growing operator. Following the successful implementation Ericsson is offering on-going Operation Support Services to AKTEL to ensure the network continues to function efficiently. This is expected to lead to the introduction of more enhanced features to improve and modernize the GSM network.

The FLP project is increasing the capacity of the AKTEL network in Dhaka by maximizing the utilization of the existing frequency spectrum by activation and tuning of some radio network features as well as to improve speech quality and minimize interference. The main objective of the project is to ease out congestions without any major degradation in the network

Roslin Bin Saleh, Key Account Manager, Ericsson, outlines the scope of the project: “The FLP project started on June 4, 2006 together with TMIB to ensure that all project team members understand the scope of the works and their responsibilities. This phase one project covers four BSCs and 306 sites in Dhaka. The FLP features activation was launched on June 30, and followed by the optimization which was completed on July 19.”

The project saw Ericsson personnel from across the globe working alongside AKTEL employees to ensure the FLP project was completed in just 45 days. Due to the success of this project existing base stations now have the ability to grow capacity while maintaining call quality. This has brought cost-efficiencies in terms of both CAPEX and OPEX.

“The key success of this project was the early preparation and our ability to meet AKTEL’s KPI requirement.”

Roslin Bin Saleh, Key Account Manager, Ericsson

Kamshul Bin Kasim, CTO, AKTEL, sums up the project: “Adding new TRXs allows more on site capacity growth, while still maintaining speech quality. Now fewer sites are needed to have more capacity meaning lower CAPEX and less sites also means less OPEX. There is now a steady base to plan for a matured network. This project ensured AKTEL can provide excellent indoor coverage for every area in Dhaka City through implementation of microcell layer for street level coverage and the in-building solution. Easily expandable radio network planning has been a key benefit, ensuring enhanced network coverage and capacity as well as maintaining network KPIs.” Following on from the success of this project, Ericsson is due to undertake a second phase of the FLP implementation in Chittagong, the second biggest city in Bangladesh.



*Roslin Bin Saleh,
Key Account Manager,
Ericsson*

Highlights

Customer

AKTEL, Bangladesh.

Customer Objective

Effective frequency management capacity for on-going rapid expansion and sustain and increase call quality

Ericsson Solution

- Frequency Load Planning (FLP)
- Radio Network Optimization

Customer Benefits

- Increased capacity
- Cost efficiencies
- Fast time-to-market

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